

REMARKS

Claims 2, 11-13, 54, 56-68, 70, 71, 73-81 and 83-87 are pending in this application and stand rejected. Claims 54, 56, 57, 71, 73, 84, 86 and 87 have been amended. Claims 54, 71, 84, 86 and 87 are independent.

The Rejection Under 35 U.S.C. § 112, ¶ 1

Claims 54, 71, 84, 86 and 87 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Office Action directed attention to claim language providing that a billing terminal, operated by a clerk, is at least one of a cellular phone and a PDA, and said that support for this feature could not be found.

Claims 54, 71, 84, 86 and 87 have been carefully reviewed and have been revised to provide that the first terminal for purchasing an item by a user is at least one of a cellular phone and a PDA. Also, the second terminal no longer is said to be at least one of a cellular phone and a PDA.

Thus, the claim language is in conformance with the specification -- by way of non-limiting example, the claims find support in the specification at page 21, lines 27-31, which explains that the user terminal 20 can include a cellular phone and a PDA. Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

The Rejections Under 35 U.S.C. § 103

Claims 54, 56, 57, 59, 68, 71, 73, 74, and 84-87¹ have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. patent no. 5,883,810 to Franklin et al. in view of

¹ Although the first paragraph of this rejection only referred to claims "54, 56, 57, 59, 68, 71, 73, 74, 84, 85 and 87" (page 4, point 7), the following paragraph referred to claim 86, and so it is understood that claim 86 was meant to be included in this rejection.

U.S. patent no. 5,988,497 to Wallace. Applicant respectfully traverses this rejection, and submits the following arguments in support thereof.

Before turning to the merits of this rejection, it is noted that although the Office Action refers to the inquiries for establishing obviousness under 35 U.S.C. § 103(a) discussed in Graham v. Deere, 383 U.S. 1 (1966), the Office Action fails to make findings regarding all of those inquiries. In particular, the Office Action notes Graham v. Deere requires a finding as to the level of ordinary skill in the pertinent art (Office Action, p. 4).

Despite its recognition of the need for findings as to the level of ordinary skill in the art, the Office Action errs in part because the Office Action fails to make any findings of fact regarding such a level of ordinary skill in the art at the time of invention. Such a finding is one of the three different factual findings that the Patent and Trademark Office requires for an obviousness rejection under 35 U.S.C. § 103(a). Specifically, the Patent and Trademark Office's Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc., 72 Fed. Reg. 57526, 57527 (October 10, 2007) (hereafter "KSR Guidelines"), incorporated into M.P.E.P. § 2141 (8th ed., rev. 6), state:

[a]s reiterated by the Supreme Court in KSR, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in Graham v. John Deere Co. (citation omitted) Obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court are as follows:

- (1) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art;
and
- (3) **Resolving the level of ordinary skill in the pertinent art.**

(emphasis added). This portion of the KSR Guidelines is reflected in M.P.E.P. § 2141(II) (8th ed., rev. 6).

The Office Action fails to comply with the KSR Guidelines; no findings were made with regard to the level of ordinary skill in the art at the time this invention was made. Applicant respectfully submits that such a finding is particularly important here to prevent the impermissible use of hindsight in assessing whether the prior art suggests an invention because substantial time, nearly ten years, has passed since the invention was made (circa 1999) and so there is a great risk of improperly relying on hindsight when evaluating the prior art.

The KSR Guidelines state "[i]n certain circumstances, it may also be important to include explicit findings as to how a person of ordinary skill would have understood prior art teachings, or what a person of ordinary skill would have known or could have done" id. at 57527. This is reflected in M.P.E.P. § 2141(II) (8th ed., rev. 6). It is respectfully submitted that this application presents precisely the type of situation where the KSR Guidelines and the M.P.E.P. encourage the setting forth of thorough factual findings regarding the level of ordinary skill in the art.

It is further submitted that, in the event factual findings are made as to the level of ordinary skill in the art, the determined level of ordinary skill in the art will not be sufficiently high to justify the Office Action's reasoning in applying, or interpreting, the lengthy references discussed below. Put another way, the references are so complex and lengthy that a high level of ordinary skill in the art would be required to justify reliance on the particular portions of those references discussed in the Office Action.

Turning to the rejections themselves, Applicant has the following comments.

Claim 54 describes an electronic settlement system for effecting authentication through a communication network. This system has a first terminal for purchasing an item by a user thereof, which is at least one of a cellular phone and a PDA, the first terminal including an input unit for inputting authentication information of the user and connecting to the communication network, a second terminal for charging the user of the first terminal a purchase amount, the second terminal being connected to the communication network, a database for storing authentication information of the user and a plurality of authentication methods, and a mediating server which performs the settlement of the authentication by mediating a communication between the first and second terminals one-to-one when receiving an ID information from one of the first and the second terminals so as to determine that the first and second terminals are participating in a same purchase, the mediating server setting at least one of the authentication methods selected by either one of the users of the first and second terminals, the selected authentication method being processed between the first and second terminals that have been determined to be participating in the same purchase, wherein one of the mediating server and the second terminal authenticates the user by using the authentication information stored in the database. When receiving a request signal from one of the first and second terminals, the mediating server sets up and transmits the ID information to the one of the first and second terminals which sent the request signal to the mediating server, and when receiving the same ID information from the other one of the second and first terminals, the mediating server mediates the communication with the first and second terminals, the settlement of the purchase is executed by an instruction from the first terminal during mediating the communication with the first and second terminals. The request signal includes a unique ID of at least one of the first and second terminals.

Claim 71 is drawn to an apparatus for effecting an authentication through a communication network with a first terminal including an input unit for inputting authentication information of a user, which is at least one of a cellular phone and a PDA, and a second terminal, for charging the user a purchase amount. The apparatus has a first communication unit connected to the second terminal via a first communication network, a second communication unit connected to the first terminal via a second communication network, a database for storing the authentication information of the user and a plurality of authentication methods, and a processing unit for performing the settlement of the authentication by mediating a communication between the first and second terminals one-to-one when one of the first and second communication units receives an ID information from one of the second and first terminals so as to determine that the second and first terminals are participating in a same purchase, wherein the processing unit processes at least one of the authentication of the user or mediates the authentication of the user selected by either one of the users of the first and second terminals, the selected authentication method being processed by the first and second terminals, by using the authentication information stored in the database. When one of the first and second communication units receives a request signal from one of the second and first terminals, the processing unit sets up the ID information and one of the first and second communication units transmits the ID information to the one of the second and first terminals which sent the request signal, and when one of the first and second communication units receives the same ID information from the other one of the first and second terminals, the processing unit mediates the communication between the first and second terminals, and the settlement of the purchase is executed by an instruction from the first terminal during mediating the communication with the

first and second terminals. The , request signal includes a unique ID of at least one of the first and second terminals.

Claim 84 describes a recording medium which stores a program for a computer, communicating with a second terminal performing billing of an authentication and with a first terminal, which is at least one of a cellular phone and a PDA, performing paying of the authentication, and performs a settlement of the authentication. This program has a first communication module which prompts to communicate to the second terminal via a first communication network, a second communication module connected to the first terminal via a second communication network, and a storage module for storing authentication information of a user and a plurality of authentication methods. Also, there is a processing module which performs the settlement of the authentication by mediating a communication between the first and second terminals one-to-one when one of the first and second communication units receives an ID information from one of the second and first terminals so as to determine that the second and first terminals are participating in a same purchase, wherein the processing module processes an authentication of the user or mediates the authentication of the user processed by the first and second terminals, by using the authentication information stored in the storage module in a manner selected by either one of the users of the first and second terminals. When one of the first and second communication modules receives a request signal from one of the second and first terminals, the processing module sets up the ID information and one of the first and second communication modules transmits the ID information to the one of the second and first terminals which sent the request signal, and when one of the first and second communication modules receives the same ID information from the other one of the first and second terminals, the processing module mediates the communication between the first and second terminals, and the

settlement of the purchase is executed by an instruction from the first terminal during mediating the communication with the first and second terminals. The request signal includes a unique ID of at least one of the first and second communication modules.

Claim 86 concerns a method of effecting an authentication through a communication network, by inputting authentication information of a user purchasing an item through a first terminal, which is at least one of a cellular phone and a PDA, to the communication network, charging the user of the first terminal a purchase amount through a second terminal over the communication network, storing authentication information of the user and a plurality of authentication methods in a database, and performing settlement of the authentication by mediating a communication between the first and second terminals one-to-one when receiving an ID information from one of the first and second terminals so as to determine that the first and second terminals are participating in a same purchase, the mediating using at least one of the authentication methods that has been selected by either one of the users of the first and second terminals, the selected authentication method being processed between the first and second terminals that have been determined to be participating in the same purchase, wherein one of the mediating and the charging authenticates the user by using the authentication information stored in the database. When receiving a request signal from one of the first and second terminals, the mediating involves set up and transmission of the ID information to the one of the first and second terminals which sent the request signal, and when receiving the same ID information from the other one of the second and first terminals, the mediating involves communication with the first and second terminals, the settlement of the purchase is executed by an instruction from the first terminal during mediating the communication with the first and second terminals. The request signal includes a unique ID of at least one of the first and second terminals.

Claim 87 describes an electronic settlement system for effecting an authentication through a communication network, and has a first terminal for purchasing an item by a user thereof, which is at least one of a cellular phone and a PDA, the first terminal including an input unit for inputting authentication information of the user and connecting to the communication network, a second terminal for charging the user of the first terminal a purchase amount, the second terminal being connected to the communication network, a database for storing authentication information of the user and a plurality of authentication methods, and a mediating server which performs the settlement of the authentication by mediating a communication between the first and second terminals one-to-one when receiving an ID information from one of the first and second terminals so as to determine that the first and second terminals are participating in a same purchase, the mediating server setting at least one of the authentication methods selected by either one of the users of the first and second terminals, the selected authentication method being processed between the first and second terminals that have been determined to be participating in the same purchase, wherein one of the mediating server and the second terminal authenticates the user by using the authentication information stored in the database. The database includes a first terminal database for storing the authentication information of the user and the authentication methods demanded by the user of the first terminal, and a second terminal database for storing an authentication method demanded by the user of the second terminal, wherein the mediating server sets an agreeable authentication method in accordance with the authentication method stored in the first terminal database and the authentication method stored in the second terminal database. The settlement of the purchase is executed by an instruction from the first terminal during mediating the communication with the first and second terminals.

These claims patentably distinguish over the cited references for at least the following reasons:

Reason 1: the claims provide that the settlement of the purchase is executed by an instruction from the first terminal during mediating of the communication with the first and second terminals;

Reason 2 - the claims provide that, when receiving the same ID information from the other one of the second terminal and the first terminal, the mediating server mediates the communication with the first and second terminals; and

Reason 3 - the claims provide that settlement of the purchase is executed by an instruction from the first terminal during mediating the communication with the first and second terminals.

In contrast, in Franklin, the transaction number, having been obtained in **advance** by the customer, is transmitted from the merchant 24 to the issuing bank 26 via the second network, i.e., payment network 36, as shown in Figure 5 and discussed at col. 10, lines 31-60). Since the customer's computer 28 is not linked to the payment network 36², it is apparent that the issuing bank 26 does NOT mediate the customer computer 28 and the merchant computer 30 as is done in the claimed invention (i.e. mediating a communication between the first terminal and the second terminal one-to-one, which will, by way of non-limiting example, be understood in view of portions of the disclosure such as the specification at page 27, lines 10-26, and page 35, line 29, through page 36, line 15). In other words, in Franklin, the transaction and payment phases are separated, whereas in the present invention they are not so separated. Consequently, at least reasons 1 and 2 discussed above are not taught by Franklin.

The aspects of the invention discussed in reasons 1 and 2 enhance communication security between the first terminal and the second terminal, since confirmation by the first

² To the extent the Office action, at page 4, point 7, suggests that Franklin's first terminal / handheld computer 28 and second terminal / billing terminal 30 are both connected to a communication network, Applicant respectfully disagrees and submits that they are connected to different networks.

terminal (the user) is always made during the transaction. This advantage cannot be achieved by one skilled in the art who follows the teachings of Franklin because Franklin does not authenticate a user's identity in the manner of the claimed invention. Franklin does not preclude the theft of information, but rather, tolerates such theft, and only makes the information susceptible of theft of limited value through expiration after a single use - Franklin states, at column 2, lines 59-63, that "[s]tealing the proxy number would not greatly benefit a thief because it cannot be repeatedly used for other purchase or transaction".

This means that, in Franklin, the user can sustain damage when a proxy number (i.e., the temporary transaction number) is stolen and used. To the extent the Office Action, at page 5, lines 1-2, states Franklin teaches using authentication information stored in a database, Applicant respectfully disagrees - Franklin does not authenticate as claimed because, as noted above, Franklin does not preclude the use of stolen information (Franklin just reduces that information's value). In contrast, in the claimed invention, the feature providing for the user's confirmation as part of the transaction procedure avoids the problem of information theft by preventing any improper use of a financial system.

Furthermore, the claimed invention provides for the use of multiple authentication methods. As a result, settlement between the first and second terminals can be executed securely.

The Office Action admits at page 5, first full paragraph, that Franklin fails to teach a database storing plural authentication methods, and a mediating server selecting at least one authentication method selected by a user of the first or second terminal, according to the contents of the transaction, and then looks to Wallace to remedy Franklin's admitted shortcomings.

The combination of Franklin and Wallace is respectfully traversed on grounds the Office Action fails to justify that combination. The Office Action states at page 5, last

paragraph, that the modification of Franklin as taught by Wallace would be obvious because both references are concerned with secure transactions. Applicant respectfully submits that the asserted combination is improper because the two references provide security in different ways. As noted above, Franklin provides security by limiting the value of the information that can be used for making a purchase, which, by reducing its value, should prevent a person from misappropriating that information (the online commerce card's number only can be used once). Wallace provides security by having multiple layers of security (i.e., different PIN codes) to make it more difficult for a person to misappropriate information.

Applicant therefore respectfully submits that one skilled in the art would not combine Franklin and Wallace, or, if they did combine the two references, they would replace Franklin's single-use card number with the tiered PIN security system taught by Wallace, which would not suggest the claimed invention.

Even assuming *arguendo* that Wallace teaches all the Office Action suggests and is combined with Franklin, Wallace, fails to remedy the shortcomings of Franklin discussed above, meaning the claimed invention patentably distinguishes over the combination of Franklin and Wallace for the same reason the claims avoid Franklin alone.

Concerning claims 56, 57, 73 and 85, the Office Action contends that Franklin teaches the aspects of the claimed invention providing for two different terminal databases storing authentication methods and the mediating server setting an agreeable authentication method in accordance with those stored authentication methods.

Applicant respectfully disagrees with the Office Action's characterization of Franklin. Whereas these claims provide for a system that selects an authentication method that is mutually-acceptable to both terminals' databases, Franklin uses no such system. The portion of

Franklin that the Office Action equates to a terminal database chosen by a user in advance (col. 6, lines 33-49), only relates to basic application information that a consumer supplies when they first fill out an application as part of the procedure for joining Franklin's system (one skilled in the art would consider this could include the person's name, address, employment information, etc.) This will only be done once, during initial registration, and not as part of the procedure by which a consumer uses Franklin's system when making purchases.

The portion of Franklin that the Office Action equates to an authentication method stored in the other terminal database (col. 7, lines 6-38) only describes a second step in the initial registration process completed by a consumer joining Franklin's system. The system administration sends the consumer digital security information (a PIN mailer) that, when used with cryptographic information also sent by the administration to the consumer (col. 6, line 61, through col. 7, line 5), lets the consumer complete the process of joining Franklin's system for online commerce cards. However, it is clear from this passage that the authentication only is part of the initial registration, and it is not used during a transaction made by the consumer using the online commerce card system.

With regard to the rejection of claims 59 and 74, the Office Action contends that Franklin teaches use of password (Office Action, p. 7). Applicant respectfully submits the Office Action's position is not well-taken because, while the cited portion of Franklin teaches use of a password, that password only is employed as part of the initial registration process whereby a user joins Franklin's program for employing online commerce cards. The password is not used as part of the procedure whereby the user, making a purchase, obtains and employs a one-use transaction number. Nor is this deficiency of Franklin's remedied by Wallace.

For all the foregoing reasons, this rejection of claims 54, 56, 57, 59, 68, 71, 73, 74 and 84-86 is not well-taken, and must be withdrawn.

Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Franklin and Wallace, and further in view of U.S. patent no. 6,038,549 to Davis et al. Applicant respectfully traverses this rejection, and submits the following arguments in support thereof.

Claim 2 depends from and so incorporates by reference all the features of claim 54, including those features which have just been shown to patentably distinguish over Franklin. This claim therefore patentably distinguishes over Franklin and Wallace at least for the same reasons as claim 54, which reasons are incorporated by reference herein.

Applicant respectfully traverses the Office Action's reliance upon Davis because the portion of Davis that the Office Action relies upon, col. 1, lines 13-61, is Davis' discussion and **criticism** of the conventional art. Davis points out that such art teaches data can be sent in a wireless manner, but that this is undesirable because sensitive data like an address, PIN number and the like could be captured by an undesirable third party. Accordingly, one skilled in the art considering Davis would **avoid** the teachings of Davis in the portion cited in the Office Action.

In fact, one skilled in the art would be led by Davis away from the teachings of Franklin and Wallace, because Davis is critical of security for wireless transfer of financial information, and proposes a particular and highly-specific security scheme for use in a 1-way financial messaging unit (col. 1, lines 6-9), which the Office Action does not contend suggests the claimed invention.

It is important to keep in mind that a one-way messaging unit could not be used in the claimed invention, because that invention depends upon two-way communication for both the first and second terminals.

In any event, Davis only is cited as suggesting aspects of claim 2 involving the first terminal connecting to the mediating server via at least one of a radio telephone communication and a video telephone communication. Even assuming *arguendo* that this is correct, it remains that Davis does not have any teachings that remedy the above-noted deficiencies of Franklin and Wallace with respect to the present invention. So the claimed invention patentably distinguishes over the combination of Franklin, Wallace and Davis for at least the same reasons it avoids Franklin and Wallace.

For all the foregoing reasons, claim 2 patentably distinguishes over the combination of Franklin, Wallace and Davis. Accordingly, favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claims 11-13 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Franklin and Wallace, in view of U.S. Patent No. 6,332,133 to Takayama. Applicant respectfully traverses this rejection, and submits the following arguments in support thereof.

Claims 11-13 all ultimately depend from and so incorporate by reference all the features of claim 71, including those features which have just been shown to patentably distinguish over Franklin and Wallace. These claims therefore patentably distinguish over Franklin and Wallace at least for the same reasons as claim 71, which reasons are incorporated by reference herein.

Takayama only is cited as suggesting a purchase history. Even assuming *arguendo* that is correct, it remains that Takayama fails to remedy the aforementioned shortcomings of Franklin and Wallace, and so the claims patentably distinguish over the combination of these references for the same reasons they avoid Franklin and Wallace alone.

Claims 11-13 patentably distinguish over the combination of Franklin, Wallace and Takayama. Favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claims 61-63, 75, 77 and 78 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Franklin and Wallace, and further in view of *Electronic Payment Systems* to O'Mahony (again, just the cover, first two pages, and pages 62-63 of that reference have been cited). Applicant respectfully traverses this rejection, and submits the following arguments in support thereof.

Claims 61-63, 75, 77 and 78 all ultimately depend from and so incorporate by reference all the features of claim 54 or 71, including those features which have just been shown to patentably distinguish over Franklin and Wallace. These claims therefore patentably distinguish over Franklin and Wallace at least for the same reasons as claims 54 and 71, which reasons are incorporated by reference herein.

O'Mahony only is cited as suggesting stepped authentication based on price. The cited passage of O'Mahony comes from a chapter entitled "Credit card-based systems", and is concerned with a credit/debit card system, not an electronic payment system as claimed. The cited passage of O'Mahony is concerned only with checking the validity of a credit card used, and there is no discussion of this being done in an electronic system. Even assuming *arguendo* that the Office Action's characterization of O'Mahony is correct, then O'Mahony (1) is cumulative to Wallace, which, at col. 4, lines 31-49, states that prevention of fraud for amounts over \$500 can be more easily justified, and that the second tier of validation is required for transactions over a set amount, such as \$1000, together with a specified card credit limit, and (2) fails to remedy the aforementioned shortcomings of Franklin and Wallace. Accordingly, the

claims patentably distinguish over the combination of these references for the same reasons they avoid Franklin and Wallace alone.

Favorably reconsideration and withdrawal of this rejection are respectfully requested.

Claims 64-66 and 79-81 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Franklin and Wallace, and further in view of U.S. Patent No. 6,092,202 to Veil et al. Applicant respectfully traverses this rejection, and submits the following arguments in support thereof.

Claims 64-66 and 79-81 all ultimately depend from and so incorporate by reference all the features of claims 54 and 71, including those features which have just been shown to patentably distinguish over Franklin. These claims therefore patentably distinguish over Franklin and Wallace at least for the same reasons as claims 54 and 71, which reasons are incorporated by reference herein.

Veil only is cited as suggesting biometric authentication. Even assuming arguendo that this is correct, it remains that Veil does not remedy the above-noted deficiencies of Franklin and Wallace with regard to the present invention. So the claimed invention also patentably distinguishes over the combination of Franklin, Wallace and Veil for at least the same reasons it avoids Franklin and Wallace alone.

For all the foregoing reasons, favorable reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

Applicant respectfully submits that all outstanding rejections have been addressed and are now overcome. Applicant further submits that all claims pending in this application are patentable over the prior art.

To the extent this response may not have discussed any particular point raised by the Office Action, that was done for reasons of brevity, and to avoid unnecessarily complicating this reply, and this response does not necessarily concede the propriety of any points in the Office Action that were not specifically discussed.

Other than the extension fee authorized in the accompanying Petition for Extension of Time, no fees are believed to be due in connection with the filing of this paper. Nevertheless, should the Commissioner deem any other fee(s) to be now or hereafter due in connection with this application, authority is given to charge all such fees to Deposit Account No. 19-4709.

Favorable consideration and prompt allowance of this application is respectfully requested. In the event that there are any questions, or should additional information be required, please contact Applicant's attorney at the number listed below.

Respectfully submitted,

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